media, booklets, leaflets, brochures, news letters, exhibitions, fairs on various renewable energy technologies, including solar energy schemes, in Hindi, English and regional languages all over the country. The Ministry is organizing Rajiv Gandhi Akshaya Urja Diwas in districts, metros and State capitals of the country on 20th August for wide publicity and awareness since 2004. District Advisory Committees on renewable energy have also been constituted in 560 districts for coordination and awareness creation of renewable energy systems/ programmes at district level. Renewable Energy Clubs have been established in several Engineering Colleges for raising awareness among students.

Potential and generation of Non-Conventional Energy Sources

3429. DR. GYAN PRAKASH PILANIA: Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) the total potential and generation of each of non-conventional energy sources in the country particularly in Rajasthan;

(b) whether a number of non-conventional energy sources proposals from Rajasthan are pending with Government for clearance; and

(c) if so, the details thereof and by when these projects are likely to be cleared?

THE MINISTER OF STATE OF THE MINISTRY OF NEW AND RENEWABLE ENERGY (SHRI VILAS MUTTEMWAR):(a) Details of estimated potential and achievements in grid-interactive renewable power in the country and Rajasthan, as on 31.03.2007 are given in the Statement (*See* below).

(b) and (c) Proposals from State Governments, including Rajasthan, for the grant of central financial assistance under the schemes/ programmes of the Ministry are received on a regular basis. At times, these proposals are found to be incomplete or not in line with the provisions of the schemes/programmes. Complete proposals are considered and approved subject to budget provisions.

Statement

Details of estimated potential and achievements in grid-interactive renewable power the country and Rajasthan, as on 31-03-2007

Sl. No.	Sources/Systems	Estimated Potential in the country (in MW)	Achievement in the country (in MW)	Estimated potential in Rajasthan (in MW)	Achievement in Rajasthan (in MW)
Grid-interactive renewable power					
1.	Bio Power (Agro residues & Plantations)	16,881[1]	524.80 MW	-	-
2.	Wind Power	45,195[2]	7,092.00 MW	5400	469.80
3.	Small Hydro Power (up to 25 MW)	15,000[3]	1975.60 MW	27	23.85
4.	Cogeneration-bagasse	5,000[4]	615.83 MW	10	23.30
5.	Urban Waste to Energy	2,700[5]	43.45 MW	62	-
	Sub-Total (in MW)	84,776[6]	10251.68	5499.00	516.95

MW = Megawatt kW = Kilowatt.

Note:-

1. Although the potential is based on surplus agro-residues, in practice biomass power generation units prefer to use fuel-wood for techno-economic reasons. A potential of 45,000 MWe from around 20mha of wastelands assumed to be yielding 10MT/ ha/annum of woody biomass having 4000 k-cal/kg with system efficiency of 30% and 75% PLF has not been taken into account. In order to realize this potential a major inter-Ministerial initiative involving, among others, Environment & Forests, Agriculture, Rural Development, and Panchayati Raj would be required. Further, a Biomass Atlas is under preparation which is expected to more accurately assess state-wise renewable energy potential from agro-residues.

2. Potential based on areas having wind power density (wpd) greater than 200 W/m^2 assuming land availability in potential areas @ 1 per cent and requirement of wind farms @ 12 ha/MW, not all of which may be technically feasible or economically viable for grid-interactive wind power. In line with international practice for setting up grid-interactive wind power systems, potential would drop substantially if sites having wpd greater than 300 W/m^2 were to be considered. However, the lower end of the potential might be suitable for off-grid applications. Further, preliminary surveys do not at this juncture suggest a sizeable grid-interactive off-shore wind power potential.

3. Technically feasible hydro potential of all sites upto 25 MW station capacity, not all of which may be economically viable. Technically feasible potential of identified sites is placed at around 10,500MW.

4. With new sugar mills and modernization of existing one, technically feasible potential is assessed at 5000MWe, not all of which may be economically viable. Furthermore, several sugar companies/cooperatives are unable to develop bankable projects on account of their financial and liquidity problems.

5. With expansion of urban population post census 2001, current technically feasible municipal waste-to-energy potential is assessed at 1700 MWe, not all of which may be economically viable. However, subsidy disbursement under the municipal waste to energy programme has been kept in abeyance on orders of the Supreme Court until final disposal of a PIL seeking composting as the preferred route for MSW disposal.

6. Not all of this renewable energy potential may be suitable for grid-interactive power for technical and/or economic reasons. Further, estimate excludes potential for solar power which is dependent on future developments that might make solar technology cost-competitive for grid-interactive power generation applications.